

No. 8. — *On a Collection of Birds from the Liu Kiu Islands.*
By OUTRAM BANGS.

THE MUSEUM has recently acquired from Mr. Alan Owston of Yokohama an interesting collection of birds from the Yayeyama, or southern group of the Liu Kiu Islands. Though consisting of but one hundred and seven specimens, comprising fifty-six species, it contains six forms apparently hitherto undescribed. The collection was made by Mr. Ishida Zensaku and assistants from February to July, 1899, mostly in the Island of Ishigaki; some of the species were taken in the islands of Taketomi, Kobama, Hamarlijima, Kuroshima, Hatojima, and Iruduroto. The systematic sequence adopted is that of Stejneger in his Catalogue of Birds hitherto recorded from the Liu Kiu Islands.¹ I am indebted to the Museum authorities for placing the collection at my disposal for study, and am under special obligation to Dr. Leonhard Stejneger of the United States National Museum. Dr. Stejneger has made extensive studies of the fauna of the Liu Kiu Islands, and his aid and advice in comparing the specimens of the present collection with those in the National Museum have been of great value. I am also indebted to Mr. E. W. Nelson of the Biological Survey for comparing the noddy and sooty terns with those in the Department of Agriculture collection. In the following descriptions all measurements are in millimetres; the wing is measured in its natural curve, and not flattened down on the rule; the tail is measured by thrusting one point of the dividers to the base of the tail feathers and measuring thence to the tip of the longest rectrix. All colors, when definitely expressed, are according to Ridgway.²

Sterna melanauchen TEMM.

Two specimens, adult ♂ and adult ♀, from a small island near Taketomi, were taken June 20. [Eggs were collected from June 25 to July 5; a single egg laid on the ground.]³

¹ Proc. U. S. Nat. Mus., 1887, Vol. X. pp. 414-415.

² Ridgway, R. A Nomenclature of Colors for Naturalists, etc. Boston, 1886.

³ A list of the Zensaku collection, containing many notes on the distribution, nesting habits, etc., of the species taken, was published by Mr. Alan Owston (Yokohama, 1899). In this paper extracts from Owston's list are in brackets.

Sterna dougalli gracilis (GOULD).

Two specimens, an adult ♂ and an adult ♀, taken June 7 on a small island near Ishigaki. [Eggs were collected from June 19 to July 5.] These specimens are extreme of the slender-billed small form to which Gould's name *gracilis* applies. Specimens from western Europe and Africa agree closely in measurements with those from eastern North America and the West Indies. The red bill claimed as a character of *gracilis* may be due to age, many young specimens from America having red bills, while in the adult birds it is black. The differences between the two races of the Roseate Tern in size and in measurements of the bill are well marked.

The Liu Kiu Islands specimens agree in measurements with the Australian form, upon which Gould based his *S. gracilis*, and there can be no doubt of their identity.

The measurements of the two specimens are as follows:—

No.	Sex.	Wing.	Tail. ¹	Tarsus.	Exposed Culmen.
37,304	♂	221	110	20.2	36.6
37,305	♀	216	109	19.4	36.

Sterna fuliginosa crissalis (BAIRD).

Two specimens from a small island near Iriomote, adult ♂ and adult ♀, taken June 10. [Eggs, one in a clutch, laid on the rock, were taken June 1.]

Sterna bergii boreotis,² subsp. nov.

TYPE. — Mus. Comp. Zoöl., No. 37,301.

A single adult ♂ in full breeding plumage from Ishigaki, June 15, 1899. [Said to breed on Ishigaki.]

Subspecific Characters. — As small as the pale gray *Sterna bergii poliocerca* of Tasmania and South Australia; differing from it in having the wings, tail, and mantle very dark smoke gray, almost mouse gray.

Color. — Type, adult ♂ in full plumage. Forehead, cheeks, lores, ear-coverts, neck all round, and whole under parts, including lining of wing and bend of wing, pure white; crown and long occipital crest glossy black; mantle, wings, rump, upper tail coverts, and upper surface of middle rectrices dark smoke gray, darkest on wings and middle of back, where the color is almost mouse gray; primary quills white; 1st primary with outer web, a band along quill on inner web and tip blackish, with a silvery suffusion which is most marked toward centre of feather; broad outer margin of inner web, below the black tip

¹ The tails are measured to the end of the second rectrix, the streamer varying too much in length individually to be taken into account.

² Boreotis, northern.

white; 2nd primary similar but black tip deeper in color and extending a short distance down outer margin of inner web, thus enclosing the white of inner web for a short distance; 3rd, 4th, and 5th primaries like 2nd, but black tip gradually growing deeper in color; outer rectrices above pale smoke gray at tips and along shafts, pale grayish white toward base; 2nd and 3rd rectrices darker on the outer webs and at tip and whitish toward base of inner webs; bill, in dried specimen, dull yellow clouded with olive toward base; feet and tarsi blackish.

*Measurements.*¹—Adult ♂, type, wing 344; tail 178; tarsus 28; culmen 62.

Remarks.—*Sterna bergii* was first recorded from this region (breeding on small islands off the north coast of Formosa) by Swinhoe (*Ibis*, Vol. II. p. 68, 1860); since then two specimens have been noted by Stejneger, both from the Yayeyama Islands, the first in *Proc. U. S. Nat. Mus.*, 1887, Vol. X. p. 392; the second in Vol. XIV. p. 490, 1891. But the question Stejneger raised in 1887, "Will anybody kindly inform me what name properly belongs to the smaller dark birds from the China seas?" has hitherto remained unanswered. My type of *Sterna bergii boreotis* agrees with the descriptions of Stejneger's specimens, and I propose for the small dark northern form of Bergius's tern the trinomial given above. When Saunders wrote his account of Bergius's tern, he had a large series of specimens at his command. He devotes but a few lines to the exceedingly interesting geographical variations of this wide-spread species, and after pointing out, in rather a vague way, how well marked the various races are, ends by including them all under one name.

The principal races of *Sterna bergii* may be indicated as follows:—

1. *Sterna bergii bergii* Licht., South Africa, large, gray of upper parts pale.
2. *S. bergii velox* (Cretzschm), Red and Arabian Seas and Bay of Bengal, large, gray of upper parts very dark.
3. *S. bergii pelecanoides* (King), northern parts of Australia, intermediate between the last two in size and coloration.
4. *S. bergii poliocerca*¹ (Gould), Tasmania and South Australia, small, gray of upper parts pale.
5. *S. bergii boreotis*, subsp. nov., Liu Kiu Islands and Northern China Sea, small, gray of upper parts very dark.

Still another race that may prove distinct is the Polynesian *S. rectirostris* Peale, described from the Fiji Islands.

¹ Three specimens of *S. bergii poliocerca* in the *Mus. Comp. Zoöl.* afford the following measurements:—

No.	Sex.	Locality.	Wing.	Tail.	Tarsus.	Culmen.
8,781	♂	Australia.	334	158	31	59.5
12,018	♀ (?)	Melbourne, Aust.	332	173	27	56.
8,782	♂ (?)	Australia.	340	146	30	59.

For further measurements, see Stejneger, *Proc. U. S. Nat. Mus.*, 1887, Vol. X. pp. 393-394.

Anous pullus,¹ sp. nov.

TYPE. — Mus. Comp. Zoöl., No. 37,298.

Two specimens, an adult ♂ and an adult ♀, from a small rocky island near Iriomote, June 10. [Eggs, one in a clutch, laid on the bare rock, were taken July 1.]

Characters. — A large very dark brown noddy with a gray crown, nearest to *A. rousseaui* Hartl. of Madagascar and adjacent islands, from which it differs by being much darker in color and slightly smaller in size.

Color. — Adults, in unworn, full breeding plumage. Narrow superciliary streak, ending above eye, lower eyelid, and a spot on upper eyelid whitish; forehead pearl gray, this color extending over crown and gradually darkening to slate gray on occiput, and thence merging on hind neck into the brown of upper parts; lores and region above the eye below the whitish streak black; upper parts rich dark chocolate brown, with a slight grayish cast; primaries and rectrices dark blackish brown; chin and sides of head blackish slate; rest of under parts deep chocolate brown; lining of wing brownish slate; bill, in dried specimens, black; feet and toes reddish brown.

Measurements: —

No.	Sex.		Wing.	Tail.	Tarsus.	Culmen.
37,297	♂	Topotype.	273	164.5	25.	39.
37,298	♀	Type.	271	159.5	24.5	38.

Remarks. — A comparison of the two specimens upon which I base this new noddy with the material in the National Museum and the Museum of Comparative Zoölogy shows them to be much nearer to *A. rousseaui* than to any of the other forms. The comparison was made with skins of *A. rousseaui* from the Seychelles and Mauritius. The Liu Kiu birds are much darker in color throughout, especially so about chin, sides of neck, and breast, and they are also smaller, the wing of the Mauritius specimen being 285 mm. long, and I have no hesitation in proposing a name for the Liu Kiu noddy.

Compared with other noddies, the differences are still greater; thus the Liu Kiu form is much darker than *A. ridgwayi* Anthony from Socorro and Tres Marias, especially about sides of head and throat, and the crown is darker and grayer.

From *A. galapagensis* Sharpe the new species differs in not having so black a body or such a dark gray crown.

From the noddy of eastern America — true *A. stolidus* — the Liu Kiu bird is very distinct, and can at once be told by its larger size and gray crown and forehead, the forehead and most of the crown in *A. stolidus* being white or yellowish white.

A. pullus differs much from the small slender-billed species, *A. leucocapillus*, *A. hawaiiensis*, and *A. tenuirostris*, in being larger and having a stouter bill.

¹ Pullus, dark colored, dusky.

Puffinus leucomelas TEMM.

Two specimens from a small island near Iriomote, taken June 7. [One egg was taken July 1, from a hole in the rock about six feet deep.]

Bulweria bulweri (JARD. & SELB.).

One adult ♀ from Hanarejima, June 25. [Two eggs supposed to belong to this species were taken on the same island, June 20.]

Arenaria interpres (LINN.).

One adult ♂ in full plumage, Ishigaki, May 10.

Charadrius dominicus fulvus (GMEL.).

Two females from Ishigaki, March 1 and June 1.

Aegialitis alexandrina (LINN.).

One specimen, March 13, Ishigaki. [Eggs were collected, April 29 to June 20.]

Ochthodromus mongolus (PALL.).

One ♀ from Ishigaki, June 1.

Actitis hypoleucos (LINN.).

One ♀ from Ishigaki, March 12.

Heteractitis brevipes (VIEILL.).

One ♀ in winter plumage, Ishigaki, March 12.

Gallinago gallinago (LINN.).

One ♀ from Ishigaki, March 25.

Limnobæus phæopygus (STEJN.).

Three specimens from Ishigaki, adult ♂ taken May 1, adult ♀ June 20, and a chick June 19. The chick is covered with black down, which on the back is shining blue black, the bill and a patch of bare skin below the eye are yellow.

The wing in the adult ♂ is 105.4, in the adult ♀ 104. Neither of these has white spots on the outer web of 1st primary, such as Stejneger describes. [Nests containing six eggs each were found among reeds from April 10 to July 4.]

Rallina sepiaria (STEJN.).

Two adults from Ishigaki, ♂ taken March 20 (wing 146), ♀ taken April 2 (wing 150).

Gallinula chloropus orientalis (HORSF.).

Two adults, ♂ and ♀, from Ishigaki, taken March 21.

Fuligula fuligula (LINN.).

Two adults from Ishigaki, ♀ taken May 20, ♂ June 13. The male lacks the white spots on the chin.

Anas zonorhyncha SWINH.

Two adults from Ishigaki, ♂ May 10, ♀ June 1. [Many nests were found placed on the ground among grass, and eggs, seven in a clutch, taken from April 19 to June 25.]

Nettion crecca (LINN.).

One female from Ishigaki, March 7.

*Dendrocygna*¹ *javanica* (HORSF.).

Two adults from Ishigaki, ♂ taken May 25, ♀ June 1. [Nests were found on the ground among tall grass, and eggs, six in a clutch, taken from May 31 to June 21.]

Sula sula (LINN.).

Two specimens, adult ♂ from Iriomote, June 20, adult ♀ from Ishigaki, June 15. [Eggs were found two in a clutch, on outlying rocks, May 12 to June 13.]

Gorsachius melanolophus (RAFFLES).

Two adults from Ishigaki, ♂ March 23, ♀ June 7.

¹ This name is by many ornithologists improperly spelled, "Dendrocyena." Swainson's original spelling was "Dendrocygna."

Demiegretta ringeri STEJN.

One fine adult female, taken in Ishigaki, March 25. This skin agrees with Stejneger's description, and the northern reef heron is a valid form, differing, as pointed out by Stejneger, from the southern reef heron in its gray head and occipital crest. It is, however, not recognized by Sharpe in the Catalogue of Birds in the British Museum.

Nannocnus eurythmus (SWINH.).

Two adults from Ishigaki, ♂ taken March 25, ♀ June 10. [Nests built in reeds about two feet from the ground, containing six eggs each, were found from May 19 to July 3.]

Pyrrherodias manillensis (MEYEN).

Six specimens, all from Ishigaki, adult ♂ June 20, adult ♀ May 20, and four nestlings June 1. [Eggs were taken from April 22 to May 19. The nests were placed on oak and other trees, at from 20 to 30 feet from the ground, and usually contained four eggs each.]

This heron was first recorded from the Yayeyama Islands by Stejneger in 1891, who doubtfully referred¹ it to *Ardea purpurea* Linn., but pointed out differences from that species. At that time the relationship of the two members of this genus, *purpurea* and *manillensis*, was not understood. The Ishigaki specimens appear to be typical *P. manillensis*, though I have had but few skins for comparison.

Turnix taigoor (SYKES).

Four specimens from Ishigaki, adult ♂ taken April 25 (wing 77), adult ♀ April 25 (wing 84), and two chicks taken April 12. [Eggs, four in a clutch, were taken from March 17 to July 3.] This is the *Turnix blakistoni* (Swinh.) of Stejneger (Proc. U. S. Nat. Mus., 1886, Vol. IX, p. 635). Dr. Stejneger now agrees with me in the identity of these two forms.

Sphenocercus medioximus,² sp. nov.

TYPE. — Mus. Comp. Zool., No. 37,349.

Two adults from Ishigaki, ♂ taken March 9, ♀ March 7. Specimens were secured on this island from February 2 to June 5. [Nests containing two eggs each were found on trees at from six to ten feet from the ground, between April 25 and June 2.]

¹ Proc. U. S. Nat. Mus., 1891, Vol. XIV. p. 493.

² *Medioximus*, middlemost, holding a middle place.

Characters. — Nearest in color to *S. permagnus* (Stejn.) from the middle group of the Liu Kiu Islands, but much smaller, being little larger than *S. formosæ* (Swinh.) of Formosa.

Color. — Type, adult ♂. Forehead yellowish oil green, slightly shaded with chestnut toward crown; rest of upper parts dark oil green, the feathers of the cervix, sides of head and neck and upper back, pale gray below the green tips, this color showing through a little, giving a hoary cast to these parts; rump and upper tail coverts a little brighter; primaries slaty black with a perceptible greenish tinge toward ends, the three outer ones narrowly edged with yellowish; secondaries, alula, and middle coverts slaty black somewhat washed with green; middle coverts and secondaries bordered externally with yellow; rest of wing and scapulars oil green with a slight wash of chestnut on shoulder; under parts yellowish oil green; middle of belly and striping on flanks yellowish white; under tail coverts (reaching to end of tail) dark oil green broadly edged with straw yellow; rectrices above olive green, below slaty black with grayish tips; under surface of wing slaty.

Adult ♀, similar to the ♂ but duller in color throughout, and lacking the slight chestnut suffusion on crown and shoulders, and with the grayish tinge of cervix, upper back, and sides of head much less pronounced.

Measurements. — Adult ♂, type, wing 193.5; tail 133; tarsus 26.8; exposed culmen 19. Adult ♀, topotype, wing 192; tail 129; tarsus 26; exposed culmen 18.6.

The Green Pigeon differs in the islands as follows: *S. permagnus* is confined to the middle group of the Liu Kius, while *S. medioximus* is peculiar to the southern group; *S. formosæ* belongs further south still, to the island of Formosa.

Stejneger's type of *S. permagnus* is in the Museum at Tokyo, and I have not seen specimens of the species. In addition to the species here described being intermediate in size between *S. permagnus* and *S. formosæ*, it differs slightly in color from either of the two. In *S. medioximus* two sets of wing coverts are bordered with yellow, and the male has a decided wash of chestnut on both crown and shoulders. Stejneger especially describes his type as having only one set of coverts "the outer great coverts" edged with yellow. If the type of *S. permagnus* be a male, as was supposed, then the chestnut wash on the crown and shoulders of *S. medioximus* is a distinctive character, and yet again very different from the strong coloring of these parts in *S. formosæ*.

Chalcophaps indica (Linn.).

Two specimens, ♂ and ♀ adults, from Ishigaki. The ♂ taken March 20, the ♀ taken June 10. [Many nests were found, containing two eggs each, usually placed in dead trees at from six to ten feet from the ground.]

The two Ishigaki skins differ slightly from two Indian specimens of true *C. indica* with which I compared them. In the Liu Kiu birds the band on the

lower back between the two gray bands is not coppery bronze, but is dull black, almost without metallic lustre, and the male has a much greater amount of gray on back and upper neck.

A green-winged dove was described by Swinhoe from Formosa as *C. formosana*, but is not recognized as distinct from *C. indica* by Count Salvadori, in the British Museum Catalogue (Vol. XXI. pp. 514-520).

Megascops elegans (CASSIN).

Two adults from Ishigaki, ♂ taken March 25, ♀ March 23. Specimens were taken from March 1 to June 3. [Eggs, two in a clutch, were taken from holes in trees, seven to fifteen feet from the ground, from May 14 to June 27.]

Ninox japonica (TEMM. & SCHL.).

Three specimens from Ishigaki, adult ♂ taken April 20, adult ♀ April 15, and a half-grown young, no date. These skins agree with Japanese specimens. The wing of the adult ♂ measures 215, of the adult ♀ 210.

Accipiter gularis (TEMM. & SCHL.).

Three specimens, a ♀ (?) not in full adult plumage taken June 1, an adult ♂ March 25, and a downy nestling June 27, all from Ishigaki.

Butastur indicus (GMEL.).

Two specimens from Ishigaki, neither in full plumage, the ♂ taken June 1, the ♀ March 23.

Halcyon coromanda rufa (WALLACE).

Two specimens from Ishigaki, adult ♂ and ♀, both taken April 25. Specimens were secured in Ishigaki and Taketomi from April 5 to June 10. [Eggs, three in a clutch, were collected from June 1 to June 21. The nests were in holes in trees at about ten feet from the ground.] I follow Dr. Stejneger in provisionally referring the Liu Kiu Ruddy Kingfisher to this form.

Anthus maculatus HODGS.

One female taken in Ishigaki, April 7.

Motacilla lugens KITTL.

One adult ♂ in full spring plumage, taken in Ishigaki, June 1. This seems rather a late date for *M. lugens* to be in the Liu Kiu Islands.

Hypsipetes pryeri STEJN.

Five specimens from Ishigaki, an adult ♂ taken Feb. 29, an adult ♀ April 30, and three recently hatched young April 21. [Skins were also obtained in Kabama, and eggs, four in a clutch, were taken from April 2 to June 25.]

Merula pallida (GMEL.).

Two adults from Ishigaki, ♂ February 20, ♀ May 1. (Many specimens were taken in Ishigaki up to June 20.)

Merula chrysolaus (TEMME.).

Two specimens from Ishigaki, adult ♂ May 7, adult ♀ February 18. [Skins were collected in Ishigaki between February 18 and June 7.]

Merula obscura (GMEL.).

Two adults from Ishigaki, ♂ February 22, ♀ March 1. [Obtained in Ishigaki between February 20 and March 1.]

Monticola solitaria (MÜLL.).

One adult ♀, Ishigaki, March 23.

Terpsiphone illex,¹ sp. nov.

TYPE. — Mus. Comp. Zoöl. No. 37,363.

Two specimens from Ishigaki, an adult ♂ April 25, and an adult ♀ May 31. [Specimens were taken between April 25 and June 20. Eggs, four in a clutch, between May 12 and June 13.]

Characters. — Nearest to *T. princeps* (Temm.) of China and Japan, but smaller; rectrices narrower and squarer at ends; wing shorter; primaries very short and decidedly narrower and more pointed at ends; *wing formula different* — 4th primary longer than 5th (these two equal in *T. princeps*, or 4th slightly shorter than 5th); feathers of crest in the ♂ all narrower, less rounded; colors much as in *T. princeps*, except less white in axillas and lining of wing; feathers of crest in the ♂ steel blue instead of purplish; sides more heavily washed with brown.

The ♀ differs from the ♀ of *T. princeps* in the same manner as does the ♂, *i. e.*, it is smaller; in having narrower, shorter, more pointed primaries; narrower rectrices; crest feathers narrower and bluer, less purplish in color.

¹ *Illex*, alluring, enticing.

Color.—Adult ♂, head all round, throat, and jugulum blue black, rather more purplish on throat than on crown; back and scapulars glossy prune purple; upper tail coverts and tail blue black; wings black edged with purplish brown; middle of belly and under tail coverts white; sides and flanks heavily washed with dark purplish brown; axillas dull brownish black with white tips; under primary coverts black; under wing coverts white streaked with pale brown.

Female, crown blue black; sides of head and cervix dark gray; throat dark gray becoming paler on jugulum; back chestnut, many of the feathers glossy purplish maroon at ends; tail dark purplish brown; wings hair brown edged with hazel, deeply so on secondaries and tertiaries; middle of belly and under tail coverts white; sides and flanks washed with purplish brown; lining of wing as in the ♂, except primary coverts are hair brown instead of black.

Measurements.—Adult ♂, type, wing 88; tail, to end of middle rectrices 246.5, to end of longest other rectrices 113; greatest width of outer rectrix, 8.8; tarsus 14.4; exposed culmen 15.4.

Adult ♀, topotype, No. 37,364, wing 82; tail 80; tarsus 14; exposed culmen 15.4; width of outer rectrix 9.2. [In adult males of *T. princeps* the wing ranges from 92 to 94, and the greatest width of the outer rectrix is 11.4. In the adult females the wing measures from 88–90, and the greatest width of the outer rectrix is 12.]

Remarks.—This appears to be the first record of a Paradise Flycatcher from the Liu Kiu Islands. Besides being considerably smaller than a *T. princeps*, it differs noticeably in its short, narrow, pointed primaries and narrow rectrices, and in having the 4th primary longer than the 5th. Like so many of the breeding birds of these islands, it is a well-marked island species.

Zanthopygia owstoni,¹ sp. nov.

TYPE.—Mus. Comp. Zoöl., No. 37,367.

One male from Ishigaki, June 20.

Characters.—Nearest to *Z. narcissina* of Japan, but wing much shorter, due chiefly to the shortening of the primaries; *wing formula different*—2nd primary shorter than 6th, 3rd about equal to 5th, 4th longest. In *Z. narcissina* the 2nd primary is much longer than 6th, 3rd equals 4th, these two longest and longer than 5th. In color the island bird is very different, the back is dark green, not black, the yellow frontal band extends all the way across base of culmen, the throat and breast are clear gamboge yellow, not orange.

From *Z. zanthopygia* (Hay) the species can be distinguished by its yellow eyebrow (white in *Z. zanthopygia*) and differently marked wing.

Color.—Male, apparently fully adult (♀ unknown), narrow frontal band, extending directly across base of culmen and thence over eye to the supra-auricular region, gamboge yellow; pileum, cheeks, back, and scapulars dusky

¹ Named in honor of Mr. Alan Owston.

olive green; rump bright gamboge yellow; upper tail coverts and tail black; wings dark hair brown, the lesser coverts dull, dark plumbeous; a large white wing patch, formed by the white color of the middle and most of the greater coverts; one or two (on each side) of the longer tertials narrowly edged with whitish for the basal half of the outer web; throat, jugulum, and breast bright gamboge yellow, becoming yellowish white on belly and under tail coverts; sides and flanks washed with olive green; lining of wing and narrow inner margin of wing feathers, below, white.

Measurements.—Type ♂, wing 67; tail 45; tarsus 15.8; exposed culmen 10.2; distance from tip of longest secondary to tip of longest primary about 15.

Remarks.—In Proc. U. S. Nat. Mus., 1887, Vol. X, pp. 406-407. Stejneger pointed out the structural differences between the Liu Kiu species and *Z. narcissina*; he, however, had but one young example of the island species, and on this account refrained from giving it a name. The one skin obtained by Zensaku bears out all the structural characters, and besides shows marked color differences from either *Z. narcissina* or *Z. zanthopygia*.

The type of *Z. oustoni*, a male, appears to be in full breeding plumage, and if so, the dark olive green color of the back is unlike any other species, and would alone distinguish the Liu Kiu form.

Cisticola bruniceps (TEMM. & SCHL.).

Two adults from Ishigaki, ♂ taken March 7, ♀ June 1. The fantail warbler is said to be the most abundant bird in the islands. [It builds its nest in grass a foot or two above the ground. Eggs, as many as seven in a clutch, were taken from March 25 to June 30.]

Cettia cantillans (TEMM. & SCHL.).

One adult ♀ from Ishigaki, March 5. [Six specimens were taken on Ishigaki between March 5 and April 7.]

Cettia cantans (TEMM. & SCHL.).

Two specimens from Ishigaki, ♂ taken March 25, ♀ April 6. [Specimens were secured between February 18 and April 6.]

Hirundo rustica gutturalis (SCOP.).

Two adults from Ishigaki, ♂ April 4, ♀ April 3, 1899. [Four birds in all were obtained on the island between April 2 and April 5.]

Pericrocotus tegimae STEJN.

A pair of adults from Ishigaki, the ♀ taken June 20, the ♂ June 10. These specimens agree exactly with Stejneger's type.

Lanius bucephalus TEMM. & SCHL.

One adult ♀ from Ishigaki, May 10, 1899. I have compared this skin with an extensive series from Japan, and find it identical with mainland birds of the same sex in corresponding plumage.

Parus stejnegeri,¹ sp. nov.

TYPE. — Mus. Comp. Zool., No. 37,392.

Three specimens from Ishigaki, adult ♂ February 27, adult ♀ June 1, and a nestling June 7.

Characters. — Not nearly related to any known species; general coloration gray-blue, black, and white; under tail coverts mostly black; outer rectrices with no white, except a *very narrow* tip on the outer pair; no white patch on nape, a few feathers of this region with partly concealed white spots only noticeable when the feathers are disturbed; general coloration of nestling greenish and dull yellow, showing the probable affinities of this species to some of the yellow and green titmice, such as *P. jerdoni*, *P. inseparatus*, etc., which have black under tail coverts and but little white in the tail.

Color. — Adult ♂ type, a large white auricular patch; rest of head, throat, jugulum, and neck glossy blue-black; a few feathers on middle of hind neck with small semi-concealed white spots; back, rump, and upper tail coverts dark plumbeous, slightly paler on lower rump; scapulars and broad edgings to greater and lesser wing coverts plumbeous; some of the greater coverts tipped with drab-gray, forming a broken and inconspicuous wing bar; rest of wing grayish black, primaries edged with light plumbeous, secondaries with greenish gray, and tertials rather more broadly on outer webs with grayish white; primary coverts greenish gray; a broad black stripe down middle of under parts, from jugulum to under tail coverts; sides and flanks dull olive gray, much paler and more drabby along edges of central black stripe and below the black of jugulum and sides of neck; under tail coverts black, slightly edged and tipped with dark plumbeous, one or two of the shortest lateral ones a little marked with white; rectrices, below blue-black, above, broadly edged on outer webs with dark plumbeous, the central pair mostly of this color, on both webs; two outer rectrices with very narrow white tips, 2 mm. deep; bend of wing black; under primary coverts black tipped with white; axillas mostly white; under sides of primaries grayish white on edges of inner webs.

Adult ♀, topotype, No. 37,393, similar in markings to the male, all the colors duller and lateral under tail coverts more noticeably marked with white.

Nestling, topotype, about two-thirds grown, auricular patch olive yellow; head, back, and throat dusky olive green, darkest on top of head and sides of throat; a blackish line down middle of belly; sides, flanks, and under tail

¹ Named in honor of Dr. Leonhard Stejneger.

coverts dull olive yellow; wings grayish hair brown, scapulars and lesser coverts dull grayish olive, tips of greater coverts yellowish, forming a wing bar; primaries and secondaries edged with greenish gray; tail grayish hair brown edged with greenish gray, outer rectrices *barely* tipped with whitish.

Measurements. — Adult ♂ type, wing 62; tail 55.5; tarsus 18.2; exposed culmen 11. Adult ♀, topotype, No. 37,393, wing 60; tail 50; tarsus 18; exposed culmen 10.5.

Corvus macrorhynchus levaillantii (LESSON).

Four specimens, all from Ishigaki, adult ♂ March 25, adult ♀ March 28, and two young from the nest June 10. [Eggs, four in a clutch, were taken April 11 to June 10.]

Sturnia pyrrhogenys (TEMME & SCHL.).

One male from Ishigaki, June 1, 1899.

Zosterops loochooensis (TRISTRAM).

Two specimens from Ishigaki, adult ♂ March 13, adult ♀ April 6. [Abundant on Ishigaki and Kuroshima. Skins were taken from February 18 to June 7, and eggs, four in a clutch, April 2 to June 25.]

A careful comparison of these two specimens with numerous examples of *Z. simplex* and *Z. japonica* proves the Liu Kiu form to be a distinct island race, in spite of the doubts cast upon it in the latest review of the group.¹ But as no adequate description of it appears to have been published, I append the following: —

Characters. — Nearest to *Z. simplex* of China, but bill heavier, wing longer; of a brighter green color above, and brighter yellow color below; the species differs from *Z. japonica* in slightly shorter wing and in the color of the sides and flanks, which lack the strong vinous brown of this region in the Japanese species, and also in the primaries, being very short and narrow at tips (a character presented by many of the species of birds peculiar to the Liu Kiu Islands); wing formula, 1st primary about equal to 6th, shorter than 5th, 2nd equal to 4th, 3rd longest.

Color. — Whole upper parts including margins of wing and tail feathers yellowish oil green, frontal region slightly yellower; wings and tail black (except for the green margins of the feathers); orbital ring silky white; a dusky spot below and in front of eye; chin and throat lemon yellow; breast and belly soiled whitish, faintly washed with yellowish along median line and with pale écu drab on sides and flanks; thighs yellowish white in front, dusky oil green behind; under tail coverts lemon yellow; bend of wing lemon yellow; alula black; lining of wing and axillas pale yellow; narrow inner margins to wing feathers below whitish.

¹ Finsch, O. Zosteropidae. Das Tierreich, 1901, 15, p. 20.

Measurements. — Adult ♂, No. 37,390, wing 57; tail 39.5; tarsus 18; exposed culmen 11.2; distance from tip of longest secondary to tip of longest primary 11.

Adult ♀, No. 37,391, wing 57; tail 40; tarsus 18; exposed culmen 11; distance from tip of longest secondary to tip of longest primary 11.5.

Emberiza spodocephala PALL.

One male, not in full plumage, from Ishigaki, April 8.

Passer montanus saturatus STEJN.

One adult ♂ from Ishigaki, June 30. This specimen differs from the type of *P. saturatus* only by slightly paler colors, due to the more abraded condition of its plumage. [The bird was common in the island, and was breeding in the roofs of the houses. Eggs, seven in a clutch, were taken March 20 to June 25.]

Coccothraustes coccothraustes japonicus (TEMM. & SCHL.).

One female from Ishigaki, March 7.